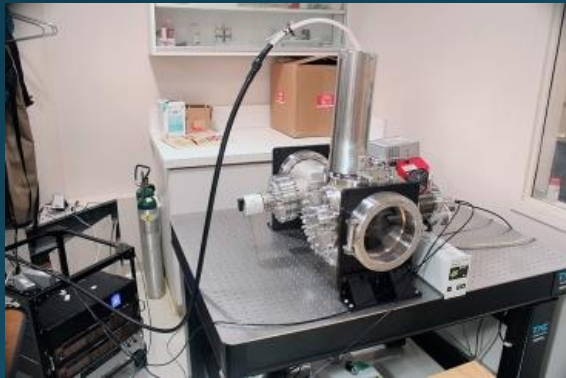


Soft Tissue X-Ray

Although x-rays revolutionized the medical field by allowing for a non-invasive way to examine internal structures, the resolution was never high enough to map soft tissues in the body. Researchers at MIT have developed an approach that allows for much higher resolution without any contrast agents, such as barium or iodine.



Soft tissue x-ray of a human wrist take from MIT's prototype.



MIT's prototype soft tissue x-ray, housed in a vacuum chamber 8 inches across.

Instead of targeting the sample with an electron beam from one large source, this apparatus relies on a microfabricated array of point sources to produce a myriad of coherent beams. This bypasses the need for contrast agents and gives a resolution about 100 times greater than conventional x-rays, while costing several orders of magnitude less than current high-resolution x-rays.